PARTS, SYSTEMS AND AUTOMATIONS FOR FLUID DISPENSING

USE AND MAINTENANCE MANUAL

VOLUMETRIC DOSING VALVE DAV-300 AND DAV-400

COD.: **DTVI_DAVMD_2531**
REV.: **01**
DATE: **02/12/2025**

TRANSLATED FROM ORIGINAL
Read carefully before use!

EN

Summary

1 GENERAL INFORMATION

This manual contains information regarding the installation, use, maintenance and end of life of the component and provides indications for the most appropriate behavior for correct operation. This manual has been designed to be simple and as immediate as possible, with a subdivision between chapters and sub-chapters that allows any desired information to be found quickly. Furthermore, the manual begins by giving a general description of the content, then an overview of the component, to arrive at aspects of safety, transport, installation and use and finally the end of life. In case of doubts about the interpretation or reading of this document, please contact the manufacturer.

DAV Tech disclaims all responsibility relating to improper use of the component. Comply with what is specified in this manual.

Read this manual before handling the component or performing any action on it

The manual constitutes an essential safety requirement and must accompany the component throughout its entire life cycle.

It is the responsibility of the end user to optimize the functionality of the component, always keeping in consideration the purpose for which it was built.

This manual must be kept, together with the attached documentation, in good condition, readable and complete. Furthermore, it must be stored near the component or, in any case, in a place accessible and known to all personnel who use the component itself or who must carry out maintenance or inspection interventions. In the event that the manual deteriorates or is no longer complete, a copy must be requested from the manufacturer, indicating the manual code and revision.

The manual is intended for personnel who use the component (operators), who perform maintenance on it (maintenance technicians), and personnel who must carry out checks or inspections. The manufacturer is not liable for damage to the component caused by personnel who have not followed the indications contained within the manual itself.

In case of doubts about the correct interpretation of the information contained in this manual, please contact the manufacturer.

GUARANTEE

During the design phase, materials and components were carefully selected for implementation in the project and subjected to routine inspection prior to delivery. All elements, from fastening assemblies to control mechanisms, have been engineered and manufactured with an appropriate safety factor to withstand loads exceeding those encountered during normal operating conditions.

For additional notes regarding equipment warranty provisions, please refer to Section 7 of the "GENERAL CONDITIONS OF SALE AND WARRANTY" form issued during either the quotation or order confirmation phase.

1.1 Symbology

The following symbols are used to give greater impact to the importance of the concept to be conveyed.

ATTENTION!
Refers to a warning that could lead to minor damage (minor injuries, damage to the component requiring maintenance technician intervention).

DANGER!
Refers to a major event that could cause significant damage (death, permanent injury, irreversible component failure).

NOTE. Indicates relevant information or elaboration.

OBLIGATION. Indicates an activity that must be performed, related to both the component and the manual.

REFERENCE. Refers to an external document that is important to view.

Furthermore, the symbol list is integrated with that of personnel authorized to use the component and their function, together with other symbols used within the manual.

Operator
Qualified person capable of operating on the component, performing adjustment, cleaning, start-up or restart operations. The operator is not authorized to perform maintenance.

Mechanical maintenance technician
Qualified technician capable of performing mechanical interventions, adjustment, maintenance and ordinary repair described in this manual. Not qualified to perform interventions on electrical systems in the presence of voltage.

Electrical maintenance technician
Qualified technician capable of performing electrical interventions, adjustment, maintenance and ordinary repair described in this manual. Capable of working in the presence of voltage on electrical cabinets and junction boxes. Not qualified to perform interventions on the mechanical side.

Manufacturer's technician
Qualified technician made available by the manufacturer to perform complex operations in particular situations, or in any case according to what has been agreed with the customer.

1.2 Reference standards

The normative and directive references for this manual are as follows:

Directives

- 2006/42/EC – Machinery Directive;

1.3 Declaration of incorporation (Annex II B DIR. 2006/42/EC)

Manufacturer's name: **DAV Tech Srl**
Address: Via G. Ravizza, 30, .36075, Montecchio Maggiore (VI)

DECLARES THAT THE PARTLY COMPLETED MACHINERY

Component: DAV-300 and DAV-400 Valve
Model: Volumetric dosing valve
Year: 2025
Intended use: Volumetric dosing of fluids of any viscosity

COMPLIES WITH THE INCORPORATION PROVISIONS DICTATED BY DIRECTIVE 2006/42/EC

The technical documentation has been drawn up in compliance with Annex VII B, as required by the following:

- Machinery Directive 2006/42/EC of the European Parliament and Council of 17 May 2006

FURTHER DECLARES THAT:

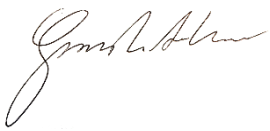
- We undertake to transmit, in response to an adequately motivated request from national authorities, relevant information on this partly completed machinery;
- The technical file has been constituted by Andrea Grazioli, via Ravizza, 30, Montecchio Maggiore (VI), IT.

This partly completed machinery cannot be used until the machinery on which it will be used is declared compliant with standard 2006/42/EC.

Montecchio Maggiore, July 29th 2025

The legal representative

Andrea Grazioli



1.4 Glossary

The following are the most used terms within this manual with their meanings.

TERM	DEFINITION
Enable	Term that defines the act of preparing (enabling) an action. The action will be activated as soon as criteria are satisfied which, as a consequence, lead to the activation of the enabled action.
Activate	The action that is performed instantaneously upon command actuation.
Hold-to-run Commands	Commands that, used for manual operations, must be kept activated for the action to be completed. When the command is released, the action stops.
Two-hand Commands	Hold-to-run commands that require simultaneous actuation of two manual commands to perform an action.
PPE	Personal Protective Equipment. Includes all objects necessary to ensure personnel protection from possible accidental damage (safety shoes, gloves, helmet, and others).
Display	Used to display information. Can be in any form and size, including touch screen.
Manufacturer	Natural or legal person who designed and manufactured the component subject to this manual.
HP	High Pressure. Abbreviation indicating high pressure.
Icon	Small image that symbolically represents a command, function or even a document or operating program, which appears on a computer screen. When selected by the user, it starts the function or program it symbolizes.
Joystick	Lever controller used in command panels.
N/A	Not Applicable, indicating a field that does not apply to this particular manual and cannot be integrated into the component.
Operator Panel	Command station where machine control instruments are located.
P.I.	Possible Implementation, currently absent from the component described in this manual, but possible to add and implement.
Screen	Interface system between man and component. Screen images displayed on the operator panel that allow the user to receive and provide information to the management software.
Control Panel	Composition of buttons and selectors that allow direct action on component behavior.
Keyboard	Keyboard only (standalone element) or in addition to a display (keys only, no selectors or other).
Touch Screen	Touch screen that allows the user to interact with a graphical interface using fingers or special objects.

1.5 Service and manufacturer contact details

For any reason relating to use, maintenance or request for spare parts, the customer must contact the manufacturer directly (or the service center if present), specifying the component identification data.

The customer can avail themselves of commercial technical support from area agents or importers, who are in direct contact with DAV Tech Srl.

Company name	**DAV Tech Srl**
Postal address	Via Ravizza, 30, 37065, Montecchio Maggiore (VI) – (IT)
Telephone	+39 0444 574510
Fax	+39 0444 574324
email	davtech@davtech.it
Website	www.davtech.it

2 PRESENTATION AND OPERATION

In this manual we want to display the medium-sized DAV series, namely the DAV-300 and DAV-400. These valves are volumetric metered which are pneumatically controlled and which are well suited for dispensing low, medium or high viscosity fluids that are not abrasive. The pneumatic part of the valves is controlled by a 5/2 solenoid valve; therefore, the dosage starts from the hydraulic part of the system and depends on the set pressure of the fluid.

This manual presents the DAV medium size, namely the DAV-300 and DAV-400. These are a volumetric dosing valve that are pneumatically controlled and well-suited for dispensing low, medium or high viscosity fluids that are not abrasive. The pneumatic part of the valves is controlled by a 5/2 solenoid valve; therefore, dosing begins from the hydraulic part of the system and depends on the set pressure of the fluid.

In other words, the function of this component is:

VOLUMETRIC DOSING OF FLUIDS WITH VISCOSITY BETWEEN NLGI 0 AND NLGI 3

The intended use is considered to be that described in the chapter below, while any other use not described within this manual, with products of different material and format from those for which it was built, is considered improper use.

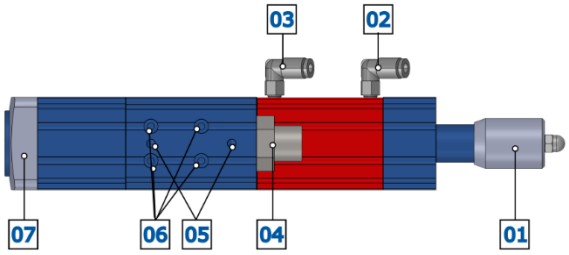


Figure 01 – DAV MD detail

No.	DESCRIPTION
01	Adjustment knob
02	Dosing air inlet
03	Loading air inlet
04	Product inlet
05	Fixing screws
06	Locking screws to main body
07	Adjustment knob

Before using a specific type of fluid, it must be verified that:

- The fluid viscosity is compatible with the valve characteristics;
- The fluid characteristics meet the desired requirements;
- The fluid technical data sheet provided by the manufacturer contains all information regarding the product such as viscosity, applications, drying and storage times;
- The fluid storage time has not been exceeded;
- The fluid containers are hermetically sealed.

In case it is necessary to use multiple fluids with the same valve, it must be cleaned thoroughly to prevent residues from the previous operation from affecting the operation to be performed.

OPERATION

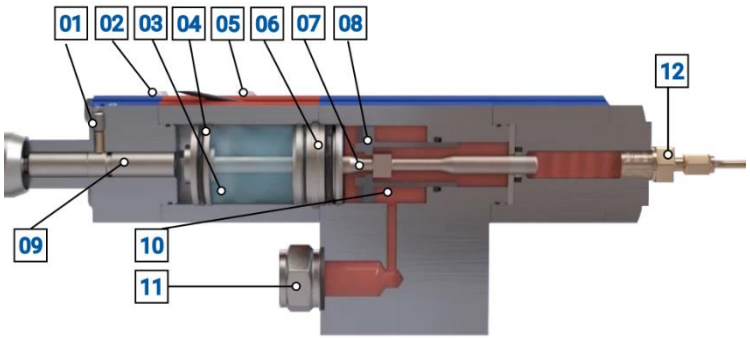


Figure 02 – DAV MD internal section

No.	DESCRIPTION
01	Regulator block
02	Dosing air inlet
03	Pneumatic chamber
04	Air piston
05	Loading air inlet
06	Bushing
07	Needle
08	Fluid piston
09	Regulator shaft
10	Fluid chamber
11	Fluid inlet
12	Fluid outlet

is valve has a single working mode, namely through a 5/2 valve it performs point volumetric dosing; through micrometric adjustment it is possible to calibrate the quantity of fluid to be dosed, while through fluid pressure the flow of fluid passing through the outlet nozzle is calibrated.

For minimum working pressures, refer to chapter 2.2.

The valve cannot operate autonomously. For it to dispense product, it must be connected to a power supply, which can be a pump or other, based on the system and customer requirements.

ATTENTION!
It is recommended to connect the valve to the sources indicated in this manual in chapter 2.2. Connecting it to other sources or to products with characteristics not indicated in this manual could damage it.

The following explains the operation through a section of the DAV MD valve.

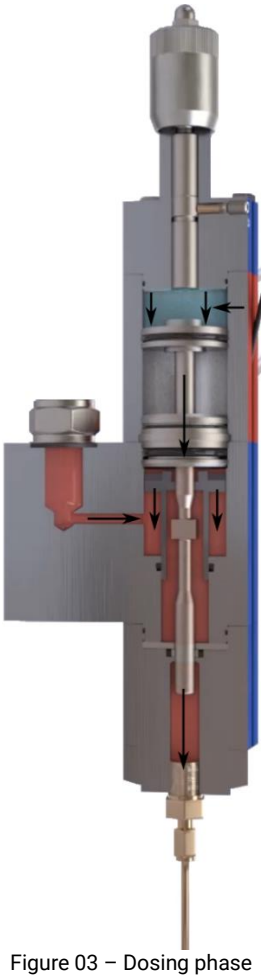


Figure 03 – Dosing phase

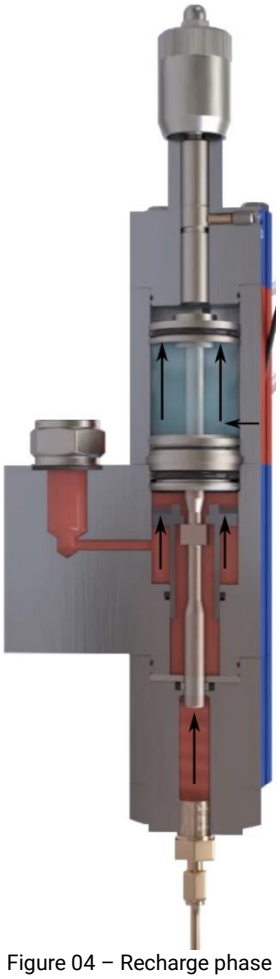


Figure 04 – Recharge phase

During the dosing phase, the needle starts from the height set by the regulator. From there, as soon as sufficient pressure is available (must exceed the minimum working pressure) in the dosing chamber, the piston pushes down the entire mechanism, including the needle, which pushes a specific quantity of fluid outward. When it reaches the end of stroke, if connected, the relative sensor signals the completed dosing. Once the needle reaches the end of stroke, dosing is interrupted.

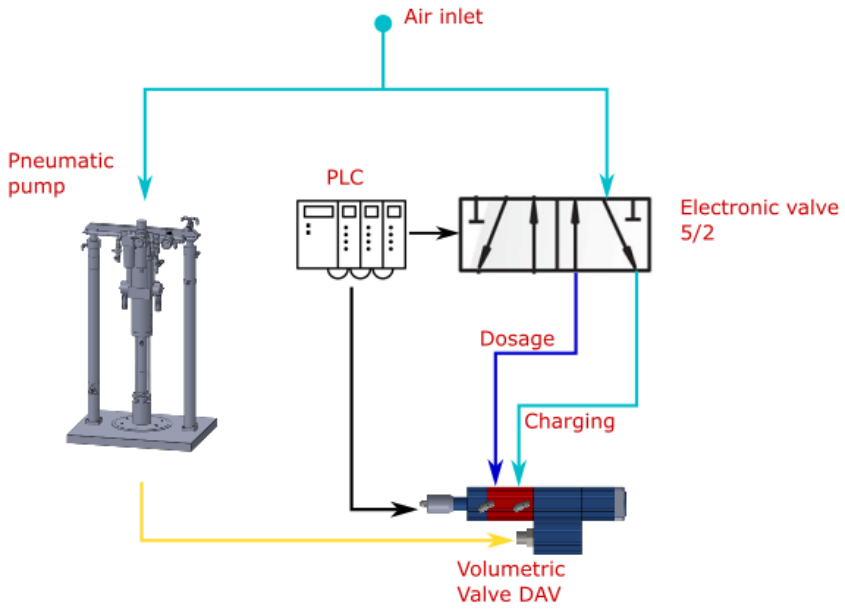
Instead, when air is supplied to the loading chamber, the fluid piston moves upward, resting on the needle which moves the system upward and allows loading of fluid into the appropriate chamber, in preparation for new dosing. The pneumatic piston moves up to the height adjusted with the regulator shaft.

ATTENTION!
Pay particular attention to the dosing nozzle, namely diameters and lengths of nozzles must be used according to the volume quantity dispensed and the type of fluid. In case of doubts, contact the manufacturer.

ATTENTION!
In case micrometric adjustment must be performed, the position of the sensor that detects the beginning of the piston stroke within the fluid chamber must be corrected

USEFUL TIPS

- The smaller the quantity of fluid to be dosed, the smaller the nozzle size should be;
- The distance between nozzle and surface is fundamental, since if the nozzle is too distant there is no correct adhesion to the surface and therefore the fluid is sucked back. Therefore, the distance between nozzle and surface must be adjusted based on the quantity of fluid to be dosed;
- In general, it is recommended to use a conical nozzle (dimensions must be considered);
- The higher the fluid pressure, the more the fluid adheres to the surface. If desired, by increasing grease pressure the valve can be moved away from the surface itself (always consult with the technical or testing office on this aspect);
- The feedback sensor risks not performing correct readings if the valve opening is less than 20%. In case it must be used in this mode, a specific sensor can be requested;
- A sensor can be used to provide feedback also for valve closure;
- In case a custom nozzle must be used, attention must be paid to the thread length, which, if too long, impacts with the needle advancement, risking damage and, especially, risking that dosing does not occur, given the valve operation;
- It is possible to heat the fluid through appropriate circuits in case its viscosity must be decreased.



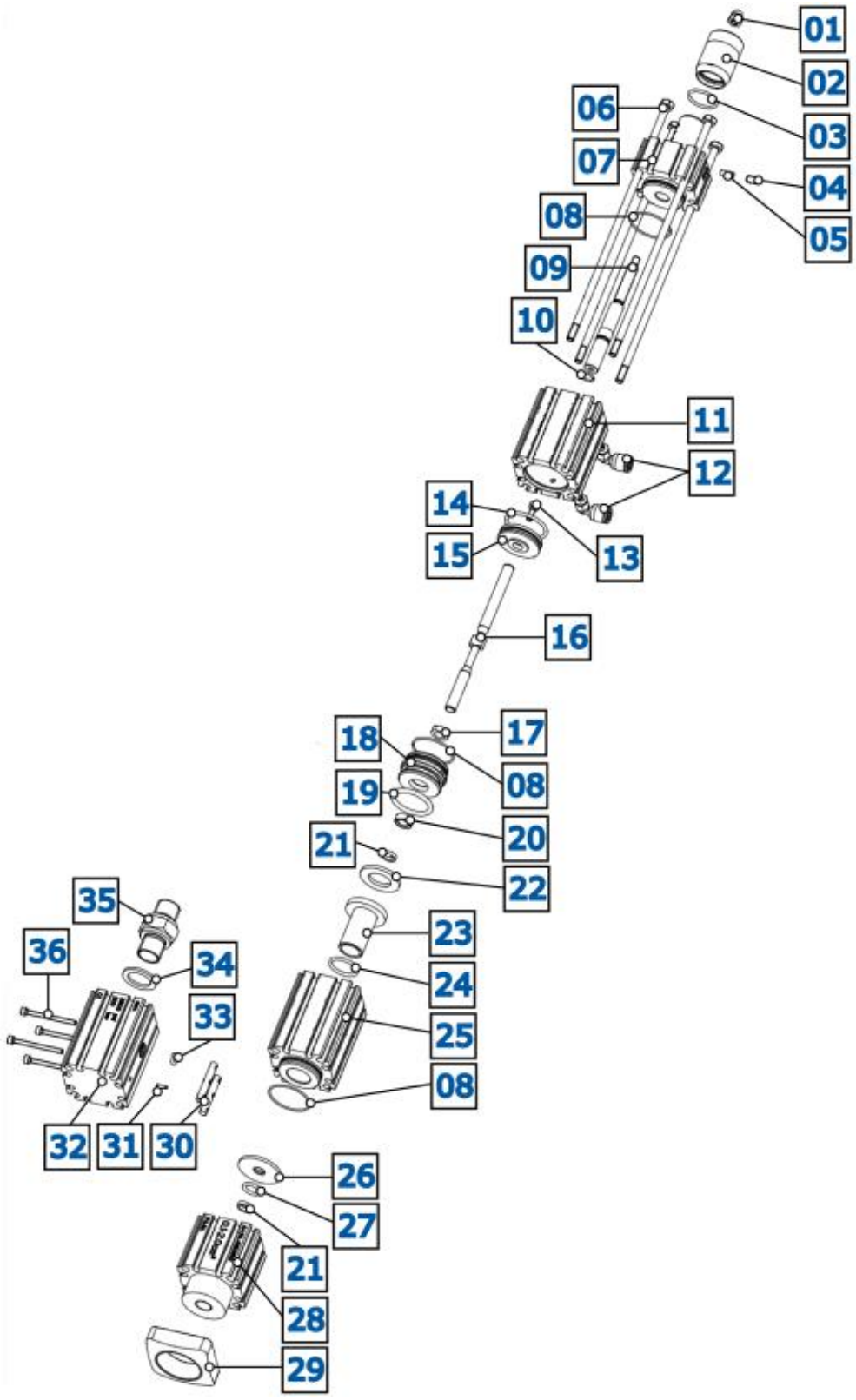
COLOR	MEANING
BLUE	Dosing air
CYAN	Loading air
YELLOW	Product
BLACK	Data
RED	Notes

Figure 02 – Connection Example

ATTENTION!
The air entering the valve must be filtered and water-free (dried), otherwise it risks forming oxide inside the component and wearing it more rapidly.

2.1 Exploded view

The following is a list of the main valve components with spare part numbers.



No.	Description	Var.	Code	Variant details
01	NUT	-	8411000	-
02	MICROMETRIC ADJUSTMENT	-	0001588	-
03	O-RING	--	8227700	-
04	GRUB SCREW	--	8512700	-
05	PIN	-	0001589	-
06	SCREW	-	0005147	-
07	ADJUSTMENT BODY	-	0004918	-
08	O-RING	-	8232100	-
09	STOPPER	-	0001587	-
10	O-RING	-	8222500	-
11	PNEUMATIC BODY	-	0004919	-
12	AIR FITTING	-	8634201	-
13	SCREW	-	8424105	-
14	O-RING	-	-	-
-	-	14.a	8227302	O-RING DAV-300
-	-	14.b	0001590	O-RING DAV-400
15	PNEUMATIC PISTON	-	0001591	-
16	NEEDLE	-	0001586	-
17	LOWER LIP SEAL	-	8365000	-
18	BUSHING	-	0005113	-
19	O-RING	-	0005121	-
20	UPPER LIP SEAL	-	8331100	-
21	SCRAPER	-	8223201	-
22	MAGNETIC RING	-	0001528	-
23	VOLUMETRIC CHAMBER	-	-	-
-	-	23.a	0001584	VOLUMETRIC CHAMBER DAV-300
-	-	23.b	0001583	VOLUMETRIC CHAMBER DAV-400
24	O-RING	-	-	-
-	-	24.a	8227302	O-RING DAV-300
-	-	24.b	0001590	O-RING DAV-400
25	INTERMEDIATE BODY	-	-	-
-	-	25.a	0004921	INTERMEDIATE BODY DAV-300
-	-	25.b	0004920	INTERMEDIATE BODY DAV-400
26	WASHER	-	0005384	-
27	O-RING	-	8223200	-
28	FRONT BODY	-	0004922	-
29	DAV-300/400 FRONT PLATE	-	0005068	-
30	FIXING BLOCKS	-	0002213	-
31	PIN	-	8460002	-
32	CONNECTION BODY	-	0004923	-
33	O-RING	-	8221400	-
34	SHAPED GASKET	-	8259500	-
35	NIPPLE	-	0004850	-
36	SCREWS	-	0001593	-
\	COMPLETE GASKET KIT	-	GASKETKIT-DAV300400	-

2.2 Technical data

All the technical characteristics concerning the component of this manual are indicated below.

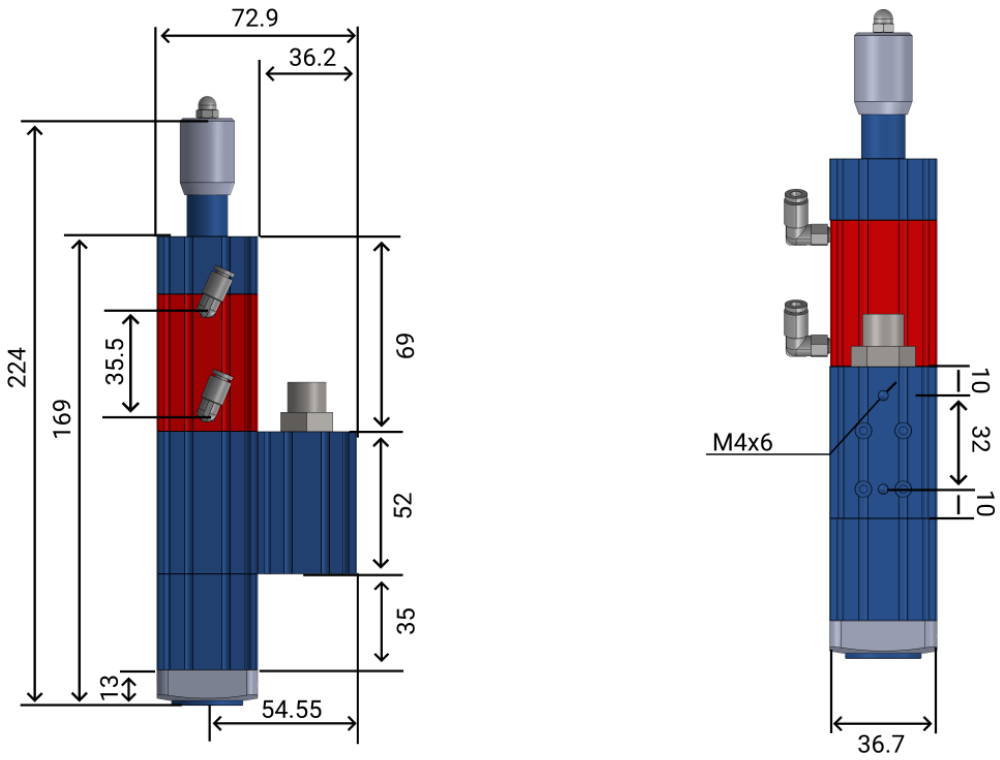
SPECIFICATIONS			
Description	**UdM**	**Values**	
Model	\	DAV-300	DAV-400
Actuation	\	Double Action	
Maximum fluid pressure	bar	20 ÷ 200	
Air pressure for actuation	bar	5 ÷ 7	
Dosing rate	cm^3	0.1 – 2	1 – 6
Air inlet thread	\	M3 (Ø4mm pipe fittings)	
Fluid inlet thread	\	1/4 GAS	
Fluid outlet thread	\	1/8 GAS female fitting	
Maximum command frequency	cycles/min	60	
Quantity adjustment method	\	Micrometric with tamper-proof grub screw	
Materials used	\	Stainless steel	
		aluminum	

ENVIRONMENTAL CHARACTERISTICS		
Description	**UdM**	**Values**
Working Ambient Temperature	°C	5 ÷ 45
Storage Ambient Temperature	°C	-20 ÷ 40
Permissible non-condensing humidity	%	5 ÷ 90

USABLE FLUIDS
Greases
Lubricants from NLGI 0 to NLGI 3 and up to 10^6 mPa x s

DIMENSIONAL AND WEIGHT CHARACTERISTICS		
Description	**UdM**	**Value**
Component length (min ÷ max)	mm	224
Component depth (min ÷ max)	mm	36.7
Component height (min ÷ max)	mm	72.9
Component weight	kg	0.73

Component



It is possible to request the 3D model of the component from the manufacturer in the desired version without any commitment.

3 SAFETY

The following presents the list of warnings regarding the component subject to this manual. Please read carefully before proceeding with the next chapters.

DANGER!
Before putting the component into operation or performing any action on it, carefully read this manual.

DANGER!
Do not use the component under the influence of drugs or other substances that may alter attention and reaction capacity.

DANGER!
Operators must perform only operations or interventions that are within the competence of their assigned role and qualification.

FIRE/EXPLOSION HAZARD!
This component is not designed to work in ATEX environments.

DANGER!
Pay close attention during the component maintenance phase, especially when disassembling components that contain pressurized springs.

ATTENTION!
No modifications must be made to the component in order to obtain performance different from that for which it was designed and built, unless authorized by the manufacturer.

ATTENTION!
Avoid introducing foreign bodies into the pneumatic system, even small ones, which could cause system malfunction and compromise machine safety.

The component can only be used by trained and authorized operators and only for the purpose for which it was designed and built.

The component is built in compliance with the technical safety standards in force at the time of its construction.

3.1 Component safety devices

N.A.

3.2 Free useful spaces

N.A.

3.3 Risk areas and residual risk

The following residual risks exist on the component:

- **Hazards due to electrical energy:** the passage of pressurized fluid generates static electricity which, if touched by personnel not properly isolated, can be dangerous;
- **Hazards due to inhalation of dangerous vapors:** The component is not designed to have isolation from any toxic and/or dangerous vapors; personnel operating with this device must keep this in mind during its use;
- **Fire hazard due to vapors:** Personnel operating near this component must absolutely not have heat sources that could start a fire;
- **Risk due to pressurized fluid projection:** Due to incorrect component maintenance, it can lead to expulsion of some parts of the same and consequent expulsion of fluid.

4 TRANSPORT AND HANDLING

Once the goods are received, it must be verified that the packaging is intact and that there is exact correspondence with the ordered material.

ATTENTION!
The original configuration of the component must not be modified. The manufacturer is not responsible for damage caused by inappropriate use of the component.

ATTENTION!
If the packaging is not intact, immediately contact the manufacturer, also sending photos of the packaging condition. Do not open it before notifying the manufacturer.

5 INSTALLATION

Component installation is performed by the customer. If necessary, they can contact the manufacturer to have a specialized technician assist them.

The valve covered in this manual provides threaded holes near the lubricant inlet fitting. Through these holes, it is possible to fix the valve on any surface prepared to accommodate it (for hole distances refer to chapter 2.2). It is recommended to perform good valve fixation, since vibrations could take it out of alignment and give non-optimal dosing results.

It is recommended to perform a component check before starting installation. If it shows evident damage, please contact the manufacturer.

ATTENTION!
Please remove packaging with maximum care. In case damage is caused to the component, the manufacturer is not responsible.

Perform packaging disposal correctly, considering the different nature of components and following the regulations in force in the Country.

5.1 Positioning

N.A.

5.2 Connections

This chapter explains the connection method to be used for the component. The following types of connections are provided:

- Electrical connection;
- Pneumatic connection;

5.2.1 Electric

Authorized personnel		**PPE to wear**	    
Component status	Component installed		
Supply Values	See chapter 2.2		
Necessary Preparations	Functioning electrical system		
Required Material	\		
Required Equipment	Wrench or screwdriver		

Electrical connection is the Customer's responsibility.

For this type of valve there is an electrical installation that only concerns the sensor side, namely the limit switches present on the valves. In this case, to be able to read the values and make valve opening and closing automatic, the sensor cables must be connected to the appropriate PLC and in the place provided by the electrical diagram.

5.2.2 Pneumatic

Authorized personnel		**PPE to wear**	    
Component status	Component installed		
Supply Values	See chapter 2.2		
Necessary Preparations	Functioning pneumatic air system		
Required Material	Fixing screws (for centering holes)		
Required Equipment	Wrench or screwdriver		

Pneumatic connection is the Customer's responsibility.

Before performing valve assembly, it is recommended to perform valve calibration, so as to perform it precisely and, once performed, proceed with assembly and possible fixing through screws on appropriate seats. For connections it is recommended to connect pneumatic tubes first and then proceed with product tube connection (using data reported in chapter 2.2).

5.3 Commissioning

Component commissioning is performed once positioning and connection operations are completed. Before performing component commissioning, the following checks must be performed:

- Verify that connections have been connected correctly;
- Verify that the component is free of dirt or residues of various types;

ATTENTION!
If even just one of the above points is not compliant, commissioning must not proceed. Commissioning should only proceed when all points are successfully completed.

6 SOFTWARE

N.A.

7 PROCEDURE

This chapter explains the main configurations that can be used on the component covered in this manual. In particular, it explains in detail:

- How to perform the initial start-up of a volumetric valve correctly
- How to perform needle adjustment through micrometric configuration;

Note that the output fluid depends not only on needle adjustment, but also on other factors, namely:

- **Nozzle diameter:** the larger the nozzle diameter, the lower the output speed;
- **Fluid pressure:** the higher the fluid pressure, the greater the flow and output speed;
- **Needle stroke adjustment:** the greater the needle stroke, the greater the output quantity.

7.1 Initial start-up

To perform the initial valve start-up, follow these steps:

1. Fill the lubricant supply tube before connecting a dosing valve, so as to remove air from the tube;
2. Connect the fluid supply tube to the appropriate housing and air to the respective pneumatic connections;
3. Set maximum dosing, namely loosen the locking screw and turn the micrometric knob to the stop (you should see 100%);
4. If the pressure inside the valve is high and it is difficult to turn the knob, it is recommended to perform dosing while turning the knob. By doing so, the pressure inside the chamber decreases and adjustment can be performed;
5. To prevent tampering, it is recommended to tighten the locking grub screw.

Maintain the nozzle/application point distance, so as to increase dosing precision;

Cycle time depends on fluid viscosity and pneumatic fluid pressure.

7.2 Micrometric adjustment

In this case, act on the adjustment knob (see chapter 2, figure 01, number 01), so as to adjust the quantity of fluid dispensed with extreme precision, namely:

- Turn counterclockwise to increase needle stroke and therefore the quantity of fluid dispensed;
- Turn clockwise to decrease needle stroke and therefore the quantity of fluid dispensed. If you reach the end of stroke, the valve is not completely closed, but dispenses the minimum value (chap. 2.2).

To facilitate adjustment of the quantity of fluid to be dosed, it is recommended to keep the valve in dosing mode for the entire duration of adjustment, so that the needle is toward the nozzle and not toward the adjustment.

8 MAINTENANCE

Maintenance interventions are all those activities to be performed on the component which, if performed correctly, allow it to have a longer life. In general, maintenance is divided into two groups:

- **Ordinary maintenance**, which are interventions at regular intervals or that can be performed by the customer's personnel, are the most important activities as they allow the component to be maintained in good working conditions;

ATTENTION!
Ordinary maintenance interventions must be performed with the methods and timing indicated in the following chapters.

- **Extraordinary maintenance**, i.e., all those interventions that are not at regular intervals or that have not been foreseen, or interventions that cannot be performed by the customer. They can also arise from the lack of ordinary maintenance interventions.

ATTENTION!
Extraordinary maintenance interventions must be performed together with the manufacturer's specialized technicians.

Regarding frequency, it must be considered that:

- **When necessary:** Operation to be performed when the need to perform it is seen;
- **Every machine start or end of work:** Indicates a daily time period, in general. This can imply every 24 hours (therefore at the beginning of shift every day, or end of shift every day), or even more frequently, based on applications;
- **Long pause:** Indicates a time period greater than approximately one hour;
- **Every drum change:** Indicates every time the supply system is changed (tank, drum, cartridge or other);
- **Every mixer disassembly:** Indicates that every time the mixer is replaced, a specific operation must be performed;
- **Weekly:** Indicates a time span equal to seven calendar days;
- **Monthly:** Indicates a time span equal to one calendar month;
- **Semi-annual:** Indicates a time span equal to six calendar months;
- **Annual:** Indicates a time span equal to one calendar year.

ATTENTION!
The times indicated below are indicative as they depend on how the component is used. Follow the variations suggested by technicians.

Assigned	Description	Frequency	Chapter
	Check dosing valve seal	Every machine start-up or end of work	\
	Check that all threaded fittings and valves show no leaks	Every machine start-up or end of work	\
	Check that gaskets are not damaged or worn	Monthly	
	Valve disassembly and reassembly	Annual (1)	8.1

(1) This data may vary based on the type of fluid used and the valve usage cycle itself.

ATTENTION!
Use due care in case products that reticulate on contact with air are used

ATTENTION!
For valve cleaning use only soft brushes or cotton cloths.

DANGER!
Remove all pressure from the valve before proceeding with disassembly. Certain components are at high pressures and risk of very serious injury exists

8.1 Disassembly and reassembly of the valve

Assigned	Periodicity	Materials and equipment
	Annual	• Torque wrench 0.2 to 1.2Nm and 1 to 6 Nm; • Hexagonal key 1.5mm, 2mm and 2.5mm; • Allen key set from 1.5 to 10mm; • Special Allen key SW 3.5mm; • Hook set (for gasket removal); • Vise with coated magnetic hooks

PPE to wear

DANGER!
Before performing this procedure it is necessary to discharge pressure from the system and disconnect the air connection.

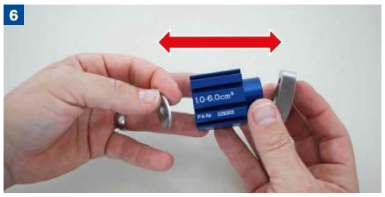
To perform valve disassembly and consequent reassembly, refer to the following link as it is a procedure that involves many steps. It is therefore recommended to view the video:

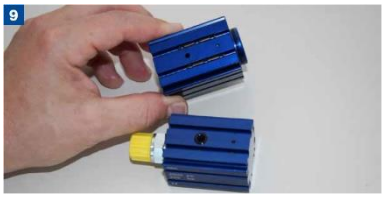
Link to video

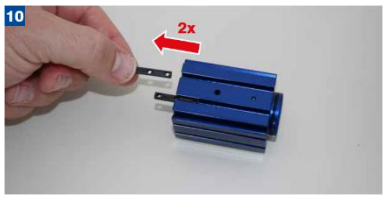
The procedure with photos is also reported below, in case it is not possible to open the video online:

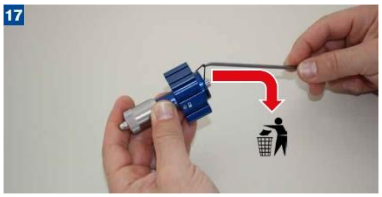
ATTENTION!
During the assembly phase of the micrometric regulator or the tightening screw, pay particular attention that the thread is inserted correctly, namely perpendicular to the body, and not inclined.

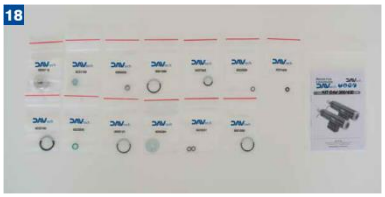
ATTENTION!
Before screwing the nozzle into position it must be verified that the adjustment grub screw, or knob, is completely loosened to avoid damaging the nozzle and needle. To loosen them, turn counterclockwise until they no longer offer resistance.

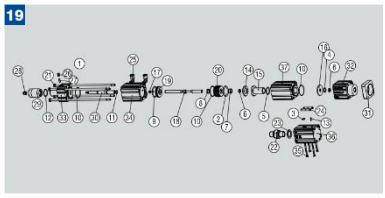


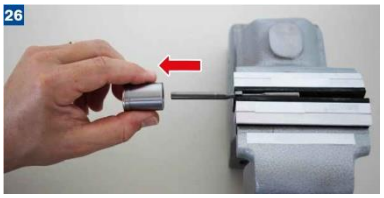


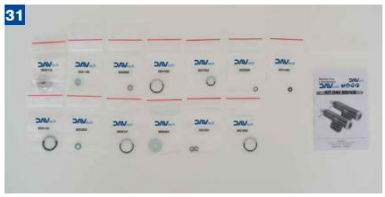


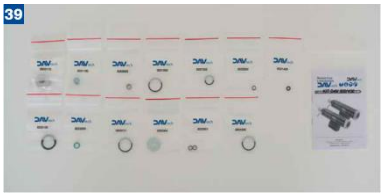


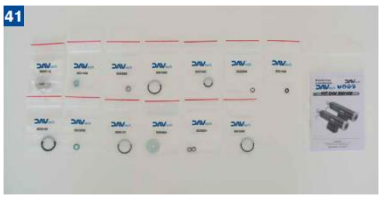


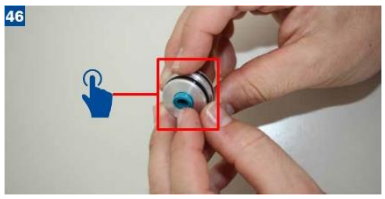


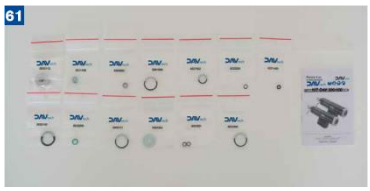


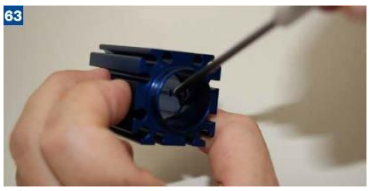


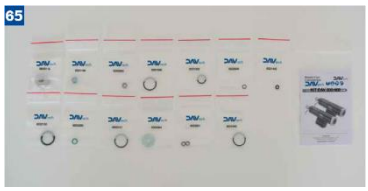


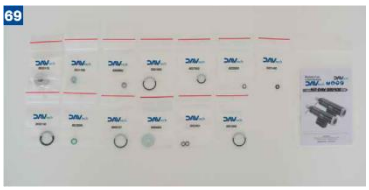


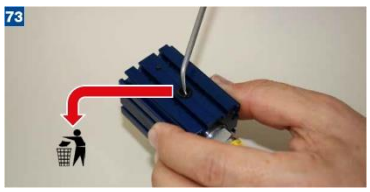


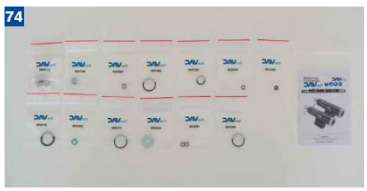


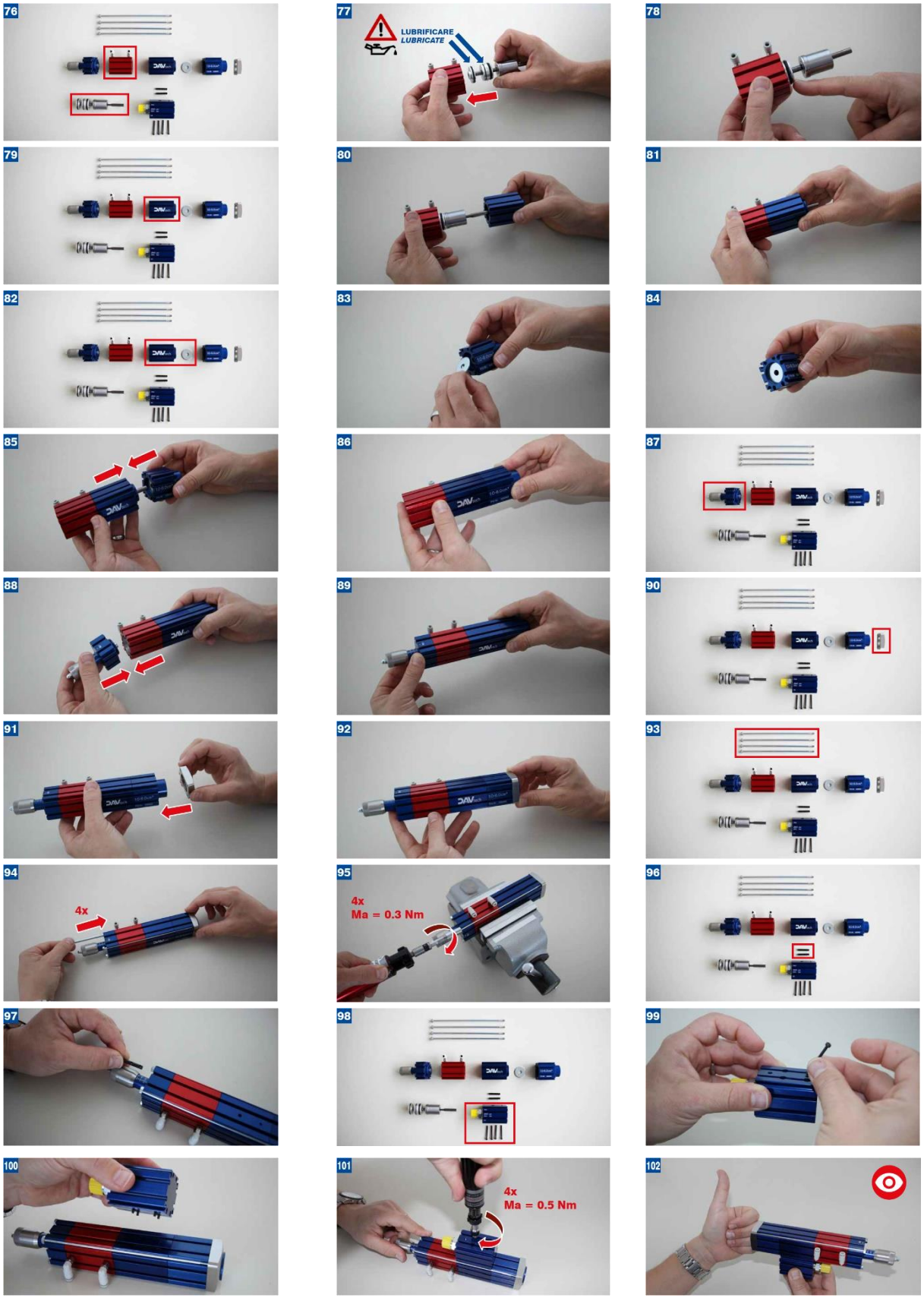












9 TROUBLESHOOTING

This chapter addresses the most common problems that could arise when using the component covered in this manual.

ATTENTION!
Once the operator has found a problem or suspects there is a problem, they must call the technician responsible for maintenance. Maintenance must always be performed by a specialized and qualified technician.

DEFECT	CAUSE	SOLUTION
Little or no fluid	Valve obstructed	Remove obstructions
	The valve does not receive the command	Verify the command (solenoid valve) of the valve. Perform a manual test
	Fluid pressure is too low or absent	Check the pressure of the fluid supply group and increase it if necessary
	The nozzle is clogged	Unscrew and clean the nozzle
	The filter is dirty (if present)	Wash or replace the filter
	A tube is bent	Verify the condition of the fluid supply tubes
	Insufficient actuation pressure	Verify the actuation pressure (chap. 2.2)
	Fluid residues present in the system	Disassemble and clean any solid particles
	Lubricant with too high viscosity	See chap. 2.2 and fluid technical data sheet
The nozzle drips even when the valve is not controlled	Presence of dirt in the nozzle	Clean or replace the nozzle
	Damaged scraper	Replace scraper
	Damaged needle	Replace needle
The valve opens with delay	Insufficient actuation pressure	Verify the actuation pressure (chap. 2.2)
	Damaged O-Ring on pneumatic piston	Replace O-Ring on pneumatic piston
The valve activates, but fluid is not expelled	The supply pump does not pump lubricant	Observe the operating instructions for the supply pump
Continuous signal from sensor	Defective sensor	Replace sensor
	Dosing volume too low	Check dosing volume adjustment and increase if necessary
		Check sensor position
	Inlet pressure too high	Reduce pressure to maximum permissible pressure (chap. 2.2)
No signal from sensor	Broken cable	Replace cable
	Defective sensor	Replace sensor
	Inlet pressure too low	Increase pressure to minimum permissible pressure (chap. 2.2)
Air in system	Air bubbles in lubricant container	Loosen the supply tube. Bleed the system. Reassemble the supply tube.
	Air bubbles in tubes	
Valve not hermetic	Defective or damaged gasket	Replace gasket
Irregular dosing	Control air applied too early	Switching can only occur if no more material is being expelled

10 END OF LIFE

End of life refers to all those activities that put the component out of service. End of life activities can be:

- **Storage**, namely when the component is temporarily placed inside the warehouse for future use;
- **Stocking**, namely when the component is placed inside the warehouse for an unspecified period awaiting a third party to purchase the component;
- **Dismantling**, namely when the component has reached the end of working period, whether due to age, obsolescence or failures that cannot be repaired, or that can be repaired but it is more convenient to buy a new component.

If installation is not planned in the short term, the component can remain packaged and must be placed in a sheltered and preferably closed location. The ambient temperatures to be respected are reported in chapter 2.2.

Instead, for dismantling and consequent scrapping of the component or its parts, the different nature of the various components must be considered and differentiated scrapping must be performed. It is recommended to assign specialized companies for this purpose and the laws in force regarding waste disposal must always be observed.